always hold a high and honoured place. This place will be his due, not only because of his own personal achievements in original exploration. His earlier work exhibits much of that instinctive capacity for grasping geological structure which is the main requisite for a field geologist. He had a keen "eye for a country." But he likewise possessed the art of choosing the best men for his assistants, and the tact of attaching them to himself and his corps. In this way he accomplished much excellent work, keeping himself latterly rather in the background so far as actual personal geological investigations were concerned, and contenting himself with the laborious task of organization and supervision, while he encouraged and pushed forward his coadjutors.

The abolition of his Survey and the appointment of one of his rivals to the post of Director of the reconstituted Geological Survey of the United States, was a blow from which he does not seem ever to have recovered. He was treated, however, with great generosity by the new Director, and had a share of the large annual appropriation to enable him to complete his Reports. He was urged to condense these voluminous works, and to present a concise and readable account of what he and his fellow-workers had done for the geology of the far West. But he had no literary proclivities, and in the end gladly surrendered the task of writing for the more congenial employment of renewing his personal acquaintance with the geology of the Western Territories. Perhaps among those, and there must be many, who personally knew and esteemed him, there may be one competent and willing to compile or complete the summary which he never completed, and thus to erect to his memory a more fitting and lasting monument than one of brass or marble. A. G.

NOTES.

We regret to announce the death of Dr. Asa Gray, the most eminent of American botanists. He died at Cambridge, Massachusetts, on Monday, aged seventy-seven. Next week we shall give some account of his services to science.

Mr. George Godwin, F.R.S., well known as the editor of the *Builder*, died on January 27. He was seventy-three years of age. Among his writings were several works in which, with great earnestness, he pressed upon the attention of the public the evil consequences springing from the neglect of sanitary laws.

Mr. George Robert Waterhouse, late Keeper of the Department of Geology in the British Museum, died at his residence, Curton Lodge, Putney, on January 21, in his seventy-eighth year.

We have also to record the death of the well-known botanist, Dr. J. T. I. Boswell, who was for many years Curator to the Botanical Society in London, and a Lecturer at the Charing Cross and Middlesex Schools of Medicine.

The Medals and Funds to be given at the annual meeting of the Geological Society on February 17 have been awarded as follows:—Wollaston Medal to H. B. Medlicott, F.R.S.; Murchison Medal to Prof. J. S. Newberry, M.D., of New York; Lyell Medal to Prof. H. Alleyne Nicholson, M.D., D.Sc.; Wollaston Fund to John Horne, F.R.S.E.; Murchison Fund to E. Wilson of the Bristol Museum; Lyell Fund to Arthur H. Foord, and T. Roberts, B.A.

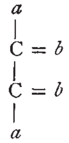
The Academy of Sciences at Turin has awarded the great Bressa prize of 12,000 francs (£480) to M. Pasteur.

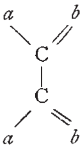
The eighteenth International Congress of Orientalists will meet in Stockholm on September 2 next, and be opened by King Oscar in person, attended by the whole of the Royal family. The Congress will sit till September 6, when the members will visit Christiania as guests of the King, in whose name they will be entertained in the Norwegian capital for two days. They will then proceed to Gothenburg, where the Congress will be dissolved. In honour of the Congress a bibliography is to be issued, containing the portraits in heliography of all living Orientalists, and a *résumé* of the works published by each. The work is to be most sumptuously got up. The editor is Count Carlo Landberg.

The following arrangements have been made for the Penny Science Lectures at the Royal Victoria Hall: February 7, by Dr. Percy Frankland, "Germs in the Air, and what they do for us"; February 14, by E. Wethered, "Earthquakes and Volcanoes"; February 21, by F. R. Cheshire, "Insects as Florists and Fruit-makers"; February 21, by E. Hodder, "Incidents in the Life of Lord Shaftesbury."

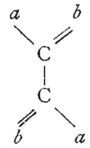
Information has been received of the arrival of H.M. surveying-ship *Egeria*, Capt. P. Aldrich, at King George's Sound, after a very successful deep-sea sounding cruise across the Indian Ocean. Between latitudes 10° and 35° S.,—a belt 1500 miles wide,—not a single sounding has heretofore been obtained in this ocean, and it is therefore satisfactory to learn that forty-three soundings, all of them accompanied with several sets of temperature observations, have been now obtained. The *Egeria's* track was from Sunda Strait to Mauritius, thence south to latitude 38°·5, and thence to Western Australia.

Memorials are being sent from various public bodies in Hampshire to the Lord President of the Council, requesting that the proposed Forestry School for England may be established in that county. It is pointed out that the extensive Crown lands of Hampshire are peculiarly well fitted for scientific and practical forestry.

A paper of exceptional interest was read by Prof. Victor Meyer at the meeting of the Chemical Society of Göttingen held on January 24 In it were embodied some remarkable speculations upon the shape of the ultimate atoms of carbon. These ideas are the outcome of his recent work upon the oxims of benzil and certain other complicated organic compounds, and may be briefly summed up as follows. Certain compounds of the type  $\begin{matrix} a \\ | \\ \mathrm{C} = b \\ | \\ \mathrm{C} = b \\ | \\ a \end{matrix}$ (where a represents a monad and b a dyad radicle) exist in two isomeric modifications which can only be expressed by the following different geometrical arrangement:



and



This necessitates an expansion of the theory of Van t' Hoff and Wislicenus, according to which, by rotation of one of the carbon atoms in the first case, the latter would be the only stable form; there are cases in which this rotation is free to occur, and cases like the present where it is prevented. From a consideration of the geometrical isomers of the benzyl cyanides, Prof. Meyer further shows that the valencies of carbon may be displaced out of their normal positions at the corners of a regular tetrahedron by the unequal attractions of unlike radicles. Finally, as the only means of accounting for all these varied phenomena, Prof. Meyer expresses his conviction that the atoms of carbon are spheres, each surrounded by an ether-shell, which forms the seat of the four valencies. On account of their probable electrical connection he terms these valencies "electrules," and considers that the electrules of the same atom are in isochronous oscillation, and therefore, in accordance with the law, repel each other but are attracted by the dissimilar oscillations of other atoms. In consequence of this repulsion they must take up the regular tetrahedral position, from which, however, under the circumstances mentioned above, they may be slightly displaced. In course of the discussion which ensued, Prof. Riecke followed up the subject with a preliminary notice of his own researches upon the shape of odd-valent atoms, and showed that, in case of nitrogen, phosphorus, and other pentad elements, the ether-shell is probably not spherical, but an ellipsoid; three valencies being situate upon the great circle at the angles of an equilateral triangle, whilst the other two are located at the poles. If this indeed be the case, the tri- and penta-valency of the nitrogen group will be completely and very simply explained.

In a paper contributed to the Royal Society of Edinburgh, and to be published in a forthcoming volume of the Society's *Transactions*, Mr. A. Crichton Mitchell gives the results of an experimental inquiry, made at the Edinburgh University Physical Laboratory, into the thermal conductivity of iron, copper, and German silver. The method employed was that of Forbes. The experiments were, for the most part, a repetition of those made by Prof. Tait about ten years ago; the main difference being that the bars used were nickel-plated in order to prevent oxidation, and thus render the estimation of the amount of surface loss of heat a matter of greater certainty than hitherto. The results arrived at confirm, in the main, those of the previous work, on the same bars, already mentioned, and are of some importance in deciding the question as to whether thermal conductivity increases or decreases with increase of temperature. The principal conclusion in the paper is, that in iron, thermal conductivity increases with increased temperature, and that therefore iron can no longer be looked upon as an exception to the rule followed by the other metals, viz. that their conductivity increases with temperature.

The first rack-railway in France was opened lately at Langres (in Haute-Marne), which is perched on a hill 1460 feet high, and is the principal seat of the French manufacture of fine cutlery. The two railway-stations which have hitherto served it are several kilometres from the town, and much inconvenience has been felt. The new line is made on the type of the Righi railway, and rises to the heart of the town. A company has recently been formed to construct a funicular railway at Hong Kong, for ascent of the hill overlooking the town, and much frequented by the inhabitants. This line will rise to a height of 500 metres, and will be 1600 metres in length. The formation of the ground is exclusively granite, affording a fine solid base. There will be three viaducts, the largest 30 metres in length. Two compound engines of forty horse-power each will be installed at the upper station.

One of the most important questions in optics is whether the velocity of propagation, and therewith the wave-length of light, depend on its intensity or not. A determination of wave-length from prismatic decomposition is not capable of great accuracy. Dr. Ebert, of Erlangen, in studying the subject, preferred a more accurate method based on interference phenomena. Using eight variously coloured light sources (lithium, hydrogen, sodium, &c.), varied in intensity between the values 1 and 250, he established the constancy of the wave-length and velocity of propagation to nearly a millionth within those limits of intensity. Considering, with these results, that the great brightness of the sun does not destroy the coincidences of the Fraunhofer lines with lines of our terrestrial light sources, even with the greatest dispersions, Dr. Ebert thinks his affirmation (of independence of intensity) is generally valid within ordinarily occurring limits of brightness.

Mr. M. W. Harrington has contributed to the *American Meteorological Journal* for December the results of an interesting inquiry as to whether the rainfall is increasing on the plains. The subject is one of importance, as an annual increase of the rainfall would increase the agricultural capacity of a large territory. In order to come to a definite conclusion he has used two long series of observations representing the average conditions at the epochs of 1850 and 1880. The author compares the lines of equal rainfall for the two periods, and shows that, if there had been an increase, any one line should have travelled westwards in the interval between the two epochs. The result of the inquiry shows an apparent advance along the zone included between the parallels of 35° and 45°, and a regression above and below these latitudes, in other words that there has been apparently a consistent increase of rainfall toward the plains.

M. A. Lancaster, Meteorologist at the Royal Observatory of Brussels, and Inspector of Meteorological Stations in Belgium, has published a paper on the climate of that country in 1887, based on the observations at Brussels, and three other stations at the west, north, and east limits of the kingdom, the stations selected being typical of all other points of observation. The weather for each month is discussed at considerable length, and the results are compared with the normal values. The observations show that the mean barometer is highest in December and lowest in October; the absolute maximum temperature during the year at Brussels was 91°·0, and the minimum 15°·4. The prevalent winds are from west-south-west to south-south-west. The rainfall during the year amounted to 24·42 inches, being considerably below the average, viz. 28·78 inches. The rainfall diminishes with the distance from the sea, excepting in the neighbourhood of the forests; the amount increases notably in the Ardennes.

Dr. Fines has published, in the fifteenth *Bulletin Météorologique* of the Department of the Pyrénées-Orientales, the results of experiments carried on at the Perpignan Observatory:—(1) To test the theory of M. Kammermann, of Geneva, for the prediction of spring frosts by comparison of the readings of the wet-bulb and minimum thermometers (explained in the *Archives des Sciences physiques et naturelles*, vol. xiv. p. 425); the result being that the data, so far as Perpignan is concerned, do not bear out the character of accuracy attributed to them elsewhere. (2) To compare the results of wind-velocity given at each instant by a Bourdon's anemometer (presented to the Academy of Sciences, July 30, 1882) with the records of Robinson's velocity anemometer. The result of this inquiry shows a mean increase in the maximum velocities of over 21 per cent. by the use of Bourdon's instrument as compared with the means of the greatest velocities obtained by Robinson's anemometer.

We have received from the Imperial Observatory at Tokio the monthly summaries and means of the observations of the meteorological service in Japan for the year 1886, accompanied by charts showing the tracks of central areas of high and low barometer and by synoptic weather charts for each month. The stations are supplied with good instruments (in some cases with self-recording apparatus), and thee obsrvations which have now been regularly taken for about eleven years under the present organization compare favourably with those of European systems. The climate is generally of the oceanic type—the highest mean temperature at Tokio occurring in August. The winds are governed by the monsoon seasons; during the first three months of the year the prevalent directions at Tokio are north and north-west. From April to June the winds shift round to the south, through east. In July and August southerly winds predominate, but in September a sudden change to the north occurs, and continues generally until December. Warnings of wind and weather are issued to various stations; the general percentage of success for both elements during the year 1886 was 80. Rainfall maps for each month and for the year are also given.

WE have received the *Annuaire* for the year 1888, published by the Bureau des Longitudes with Messrs. Gauthier-Villars, Paris. It contains, besides the tables usually expected in works of this class, much useful information as to the monetary systems of the various nations of the world, mineralogy, meteorology, and other subjects. We may especially note an excellent account, by Admiral Mouchez, of the International Astronomical Congress which met in Paris in April 1887, to prepare the way for the execution of a photographic chart of the heavens.

THE Syndics of the Cambridge University Press have undertaken the publication of a collected edition of the mathematical papers of Prof. Cayley. These papers, originally contributed to the Royal and other Societies and to various mathematical journals, will be arranged for publication by Prof. Cayley himself, who will add notes containing references to the writings of other mathematicians on allied subjects. It is expected that the edition will extend to ten quarto volumes; it is intended to publish two volumes each year until the completion of the work.

"MY TELESCOPE; a Simple Introduction to the Glories of the Heavens," is the title of a little half-crown work on astronomy by "A Quekett Club Man," whose kindred volumes on "The Microscope" have been so successful. It will be issued in a few days by Messrs. Roper and Drowley.

A NEW geological map of the Government of Kutais, by MM. Simonovitch and Sorokin, has been published at Tiflis by the Mining Department.

AT a recent meeting of the Asiatic Society of Japan (reported in the *Japan Weekly Mail* of November 19), Mr. Batchelor read a paper on the *Kamui*, or gods of the Ainos of Yezo. He enumerated under thirteen heads these deities as they appear to be arranged in the Aino mind. These are: (1) the chief of all the deities, the possessor of heaven and the maker of worlds and places; (2) the progenitor of the Aino race, and presider over the affairs of men, who is the only human being worshipped by the people; (3) the sun and moon (the stars are not worshipped); (4) the fire-god, worshipped because of its general usefulness in cooking, healing, purifying, &c.,—sometimes spoken of as the "messenger" or mediator between gods and men; (5) the goddesses who preside over springs, lakes, rivers, and waterfalls,—they are worshipped as benefactors of mankind, particularly in alluring fish to ascend and descend the rivers; (6) the sea-gods, two in number, one being good and one evil,—the latter is the originator of all storms, and the direct cause of shipwrecks and death from drowning at sea; (7) bears, the most powerful animals known to the Ainos, as well as the most useful, supplying them at once with food and clothing; (8) the autumn salmon, the largest fish ascending the rivers,—it is not worshipped, but the term *Kamui* or deity is applied to it; (9) many birds, some of good, others of ill, omen, though not worshipped, are called deities. The same term is applied to beautiful localities, to high mountains, to regions full of bears or rivers full of fish, to large trees, to cool breezes on a warm day, to men of official rank, to devils, evil spirits, and reptiles. When applied to anything good, the term *Kamui* expresses the quality of usefulness, beneficence, divinity; when applied to anything evil, it implies dread, hatefulness, and such like. Applied to animals, it represents the greatest, fiercest, or most useful; to men, it is a mere title of respect. Subsequently, in the course of the discussion, Mr. Batchelor said that the facts of the Aino religion were very simply stated. They had one chief god, and all the others were officers or messengers of this supreme being; there was no lightning- or thunder-god. These were the facts, but he could not explain them. The Ainos, he said, regarded the sun as a body in which a deity resides, "distinguishing, so to speak, between a body and a soul."

THE fossil head of a mammoth has just been unearthed in the Montmartre cemetery in Paris. The distance between the tusks is nearly 2 feet. Further excavations are being made in the hope that the remainder of the skeleton may be discovered.

ABOUT 20 cwt. of bones of prehistoric animals have been found in the bear cave near Rübeland, in the Harz Mountains. Only a part of the cave has yet been explored.

THE University of Upsala has recently been presented with the fossil skeleton of a whale, found in a layer of marl at a depth of 10 feet in the province of Halland, in the south of Sweden. The skeleton, which is almost perfect, is that of a whale which has been called *Eubalæna svedenborgii*, from some portions of a whale skeleton found last century in the province of West Gothia, and now also in the Museum at Upsala. The skeleton is the only one complete ever found. It is that of a young whale.

ON January 8, about 4 p.m., a magnificent meteor was seen at Porsgrund, in the south-east of Norway. It moved rapidly in an easterly direction towards the constellation Taurus. It was square in appearance, but the corners were rounded, the colours being intense green and violet, increasing in strength as the meteor disappeared behind a hill. The size was about that of the full moon. No sound was heard, nor did it leave a train. The passage occupied about two seconds.

THE fog which lately prevailed over our islands and the North Sea extended far into the heart of Norway.

ON December 27, about 11.30 p.m., a severe shock of earthquake was felt at Solum, in the province of Bratsberg, in the south-east of Norway. The shock was so severe that beds seemed lifted from the floor, and the occupants fled in terror into the open. The shock lasted several seconds, and was accompanied by several deep detonations. Large cracks were afterwards seen in the earth. The motion was from east to west.

A SEVERE earthquake occurred at Algiers on January 8. It was noticed throughout the whole province. In one village a house fell in, and the church and the school-house were damaged.

FROM the Consular Report on the Trade of France for 1886–87, it is apparent that the desire for technical education is not at present widespread throughout that country. M. Lockroy, thinking that one of the great causes of the depression in trade, from which France, like England, has been suffering for some years, was the almost total absence of technical education in France, and that the usual remedies were of little or no avail unless aided by a sounder education of tradesmen and merchants, founded a new department in the Ministry of Commerce to supervise the carrying out of his plans. By his help and that of other supporters of his scheme, technical schools have so increased and multiplied, that there are at present ninety of these institutions in Paris and the provinces subsidized by the State. Very few of them are self-supporting, and the number of students in attendance is lamentably small. Students now, it is said, are not anxious to attend, but it is thought that if technical schools received the power of conferring degrees equivalent to the lower degrees in a University, the students would come more readily. It is also urged that these schools should be freed from Governmental control, and be handed over to the mercantile bodies that in France correspond to our Chambers of Commerce, who understand local needs and local industries better than any department of State. Most of these institutions are behind the age, and the collections at the Conservatoire des Arts et Métiers, Paris, are not so full as those in other countries, and the building itself is in a half-ruinous condition. If the other establishments are inferior to this, as the Report seems to imply, perhaps it is not so difficult to account for the paucity of students and their lack of interest as the Ministry of Commerce seems to thinkit is.

THE additions to the Zoological Society's Gardens during the past week include two Poë Honey-eaters (*Prosthemadera novæ-zealandiæ*) from New Zealand, presented by Capt. Brabazon J. Barlow, s.s. *Tamui;* a Brazilian Hangnest (*Icterus jamaicai*) from Brazil, presented by Mr. Geo. D. Morce; a White-bellied Sea Eagle (*Haliaetus leucocephalus*) from Newfoundland, presented by Mr. Geo. M. Johnson; three Egyptian Cobras (*Naia haje*), three Cerastes Vipers (*Vipera cerastes*), two Hissing Sand Snakes (*Psammophis sibilans*), a Clifford's Snake (*Zamenis cliffordi*), an Egyptian Eryx (*Eryx jaculus*), a Blunt-nosed Snake (*Dipsas obtusa*) from Egypt, presented by Capt. W. G. Burrows; twenty-one Horrid Rattlesnakes (*Crotalus horridus*) born in the Gardens.

OUR ASTRONOMICAL COLUMN.

AMERICAN OBSERVATORIES.—The January number of the *Sidereal Messenger* states that the University of California has allotted $19,000 for the current expenses of the Lick Observatory during the present year. The Observatory has received an accession to its staff in Mr. Charles B. Hill, formerly of Chabot Observatory. The equipment of the Observatory has also been furthered by the arrival of the 36-inch photographic corrector and the micrometer for the great telescope. The micrometer is by Fauth and Co.

A new Observatory has been opened in connection with the Syracuse University, New York. This Observatory, erected in memory of Mr. C. D. Holden, a former graduate of the University, was dedicated on November 18, 1887, Prof. Newcomb pronouncing the inaugural address. The new institution possesses a transit instrument by Troughton and Simms, of 3 inches aperture, a chronometer by Dent and Co., a chronograph by Fauth and Co., and an 8-inch equatorial by the Alvan Clarks. Prof. John R. French is the Director.

At the Washburn Observatory, Prof. Brown, the new Director, who was formerly at the Naval Observatory, Washington, is engaged at Prof. Auwers' request in the determination of the fundamental star-places of the Zusatz-sterne in Auwers' system.

ASTRONOMICAL PHENOMENA FOR THE WEEK 1888 FEBRUARY 5–11.

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on February 5

Sun rises, 7h. 35m.; souths, 12h. 14m. 13·6s.; sets, 16h. 53m.: right asc. on meridian, 21h. 14·6m.; decl. 16° 0′ S. Sidereal Time at Sunset, 1h. 54m.

Moon (between Last Quarter and New) rises, 1h. 20m.; souths, 6h. 24m.; sets, 11h. 19m.: right asc. on meridian, 15h. 23·5m.; decl. 13° 16′ S.

Planet.	Rises. h. m.		Souths. h. m.		Sets. h. m.		Right asc. and declination on meridian. h. m.		° ′
Mercury..	8 10	...	13 6	...	18 2	...	22 6·3	...	12 58 S.
Venus.....	5 30	...	9 32	...	13 34	...	18 31·8	...	21 58 S.
Mars......	23 17*	...	4 41	...	10 5	...	13 40·0	...	7 44 S.
Jupiter....	2 50	...	7 6	...	11 22	...	16 5·6	...	19 55 S.
Saturn....	15 20	...	23 15	...	7 10*	...	8 17·5	...	20 14 N.
Uranus...	22 33*	...	4 5	...	9 37	...	13 4·2	...	6 7 S.
Neptune..	11 1	...	18 40	...	2 19*	...	3 41·6	...	17 54 N.

* Indicates that the rising is that of the preceding evening and the setting that of the following morning.

Feb.		h.		
6	...	1	...	Jupiter in conjunction with and 4° 2′ south of the Moon.
7	...	6	...	Neptune stationary.
8	...	21	...	Venus in conjunction with and 1° 24′ south of the Moon

February 11–12.—A partial eclipse of the Sun: not visible in Europe.

Saturn, February 5.—Outer major axis of outer ring = 46″·1; outer minor axis of outer ring = 16″·0; southern surface visible.

Variable Stars.

Star.	R.A. h. m.	Decl. ° ′			h. m.
U Cephei	0 52·4	... 81 16 N.	... Feb.	9,	20 19 *m*
Algol	3 0·9	... 40 31 N.	... ,,	10,	1 30 *m*
R Canis Majoris...	7 14·5	... 16 12 S.	... ,,	5,	22 43 *m*
			,,	7,	1 59 *m*
S Hydræ	8 47·7	... 3 30 N.	... ,,	9,	*M*
T Virginis	12 8·9	... 5 24 S.	... ,,	7,	*M*
δ Libræ	14 55·0	... 8 4 S.	... ,,	8,	2 50 *m*
U Coronæ	15 13·6	... 32 3 N.	... ,,	8,	2 26 *m*
V Coronæ	15 45·5	... 39 55 N.	... ,,	5,	*m*
U Ophiuchi... ...	17 10·9	... 1 20 N.	... ,,	9,	1 29 *m*
		and at intervals of			20 8
X Sagittarii... ...	17 40·5	.. 27 47 S.	... Feb.	9,	5 0 *M*
Z Sagittarii... ...	18 14·8	... 18 55 S.	... ,,	6,	0 0 *m*
β Lyræ...	18 46·0	... 33 14 N.	... ,,	7,	21 0 *m*
			,,	11,	2 0 *M*
U Aquilæ	19 23·3	... 7 16 S.	... ,,	11,	5 0 *m*
η Aquilæ	19 46·8	... 0 43 N.	... ,,	11,	21 0 *M*
S Sagittæ	19 50·9	... 16 20 N.	... ,,	6,	4 0 *m*
			,,	9,	4 0 *M*
Y Cygni	20 47·6	... 34 14 N.	... ,,	6,	20 9 *m*
			,,	9,	20 3 *m*

M signifies maximum; *m* minimum.

Meteor-Showers.

	R.A.	Decl.	
Near Capella	74° ...	43° N.	
,, λ Draconis	165 ...	73 N.	
,, θ Draconis	240 ...	62 N.	... February 6.

GEOGRAPHICAL NOTES.

AT Monday's meeting of the Royal Geographical Society, Admiral Mayne gave an account of recent explorations in British North Borneo. The paper of most original interest was, however, that of Mr. Maurice Portman, on the exploration and surveys of the Little Andaman. As an official on the Andaman Islands, Mr. Portman made it his business to conciliate the natives of the Little Andaman, who were regarded as quite intractable, and had been severely punished several times for murdering shipwrecked sailors. After a great deal of trouble and much risk, Mr. Portman succeeded in making friends with the natives, with the result that he and those who accompanied him could visit the island with impunity. He has thus been able to collect much welcome information both concerning the island and its highly interesting inhabitants. He completely surveyed the island, and has thus been able to make important corrections on our maps. At the north end the island consists of mangrove swamp and low belts of sandy soil, on which the aborigines have their huts. On the west and south-west the land rises into low hills of a coarse sandstone, running more or less north and south. The timber appears to be much the same as that of the South Andaman, though Mr. Portman saw no padouk and very few bamboos. The rocks are chiefly lime and sandstone, with a good deal of actual coral rock on the east and south coasts. In one place, south of Daougulé Bay, Mr. Portman noticed an outcrop of igneous rock. He found no minerals of importance. This island is about 27 miles long by 15 miles broad, and is encircled by a fringing coral reef. The products of the sea are the same as at the Great Andaman; but the Tubiporine family of coral, particularly *Tubipora musica*, occur in profusion. Dugong and turtle are very plentiful. On the South Sentinel Island, about 12 miles west of the Little Andaman, the turtle appear to have their breeding-station. This island, which is composed entirely of coral rock, is infested by large iguanas, and the *Birgus latro*, or cocoa-nut-stealing crab